

BookletChart™

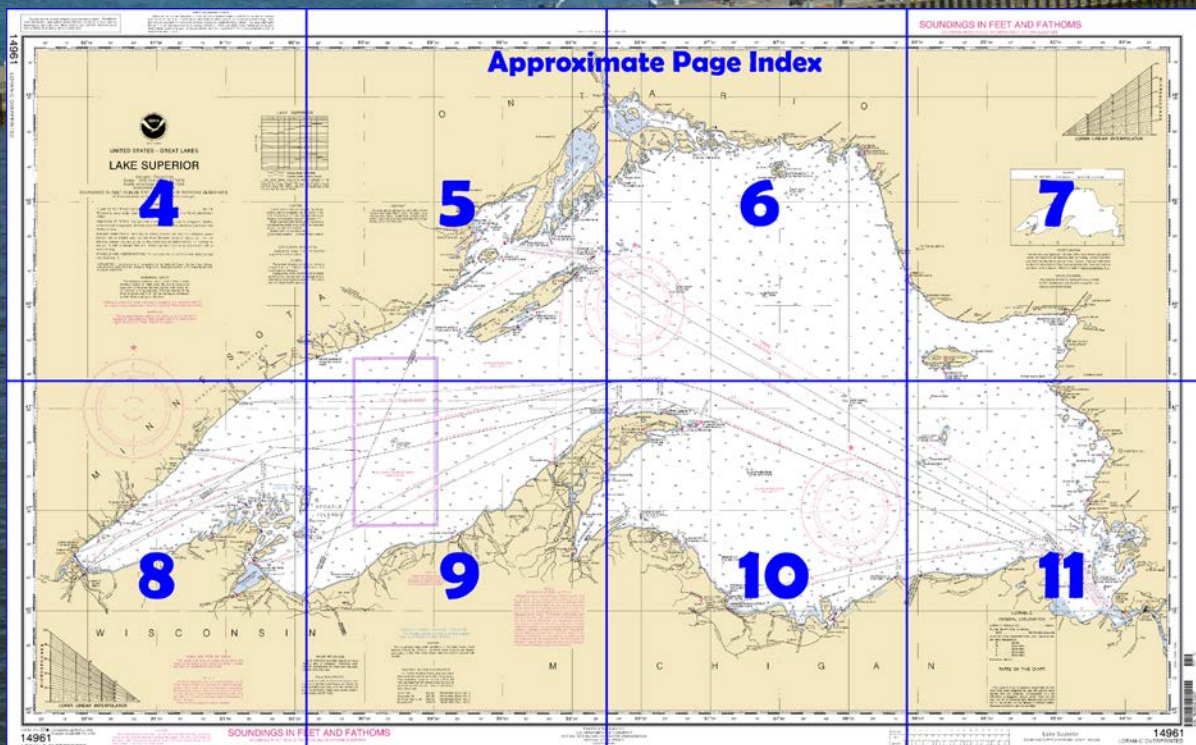
Lake Superior NOAA Chart 14961



A reduced-scale NOAA nautical chart for small boaters
When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



**Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA**

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™ ?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=14961>



(Selected Excerpts from Coast Pilot).

Lake Superior, the largest freshwater lake in the world, is the northernmost, westernmost, highest, and deepest of the five Great Lakes. The lake is fed by the waters of many short swift-flowing streams and drains through the St. Marys River into Lake Huron. The shores of the lake are generally high, rocky, and forested. The lake is sparsely populated, especially along the N shore.

The waters of Lake Superior are colder and

form more shore ice than do the other lakes. The navigation season, shorter than the other lakes, is generally about 8 months long. The

actual length of the season depends primarily on whether tonnage demands justify the expense of ice breaking for earlier or later vessel movements.

The normal elevation of the lake surface varies irregularly from year to year. During the course of each year, the surface is subject to a consistent seasonal rise and fall; the lowest stage is usually reached at about the close of winter and the highest during the late summer. In addition to the normal seasonal fluctuation, oscillations of irregular amount and duration are also produced by storms. Winds and barometric pressure changes that accompany squalls can produce fluctuations that last at the most a few hours. A storm of this type in 1939 produced fluctuations at Marquette with a maximum range of 7.4 feet. At other times, strong winds of sustained speed and direction can produce fluctuations that last a few hours or a day. These winds drive forward a greater volume of surface water than can be carried off by the lower return currents, thus raising the water level on the lee shore and lowering it on the windward shore. Fluctuations caused by such winds seldom exceed 1 foot above or below the normal level, but may cause changes up to 2 feet. An unusually severe storm in 1905 temporarily raised the water level in Duluth by 2.3 feet.

Through an agreement between the United States and Canada, the water level of Lake Superior is controlled by means of compensating works in St. Marys River. The dikes and sluice gates in the river are operated so as to maintain the monthly mean level of Lake Superior as nearly as possible between elevations 599.61 feet and 603.22 feet above the mean water level at Rimouski, Quebec, on International Great Lakes Datum 1985.

Along the shore, fog is mainly a morning phenomenon, particularly dense fog. While there are seasonal variations, poor visibilities are common throughout the year. They drop to 0.5 statute mile (0.4 nm) or less on about 40 to 60 days annually. At a peak these conditions can be expected on about 6 to 7 days per month. This peak occurs during the summer at some locations with advection fog drifting onshore. Marquette experiences this type of fog. When cold air moves across warm water, fog can set in; this happens at Sault Ste. Marie in late summer and autumn. Radiation fog is also a fall problem, but usually lifts by early afternoon.

The large heat-storage capacity of Lake Superior plus the strong winds, waves, and currents which create a continuing overturning of relatively warm, deep water inhibit an early ice cover.

Local magnetic disturbances.—Local magnetic disturbances are more prevalent on Lake Superior than on the other Great Lakes. Reports from vessel masters show that the strongest disturbances are along the N shore of the lake, that they decrease in intensity as the distance from this shore increases, and that the tendency is for upbound vessels to be drawn toward the N shore. The disturbances are described in this chapter with the discussion of their locale.

The directive force of the earth's magnetism is rather weak in this region as compared with other navigable waters of the world, and this tends to make the compass needle rather sluggish. Vessel masters should give proper attention to the correction of the compass and the determination of the ship's deviation.

Routes.—The Lake Carriers' Association and the Canadian Shipowners Association have recommended, for vessels enrolled in the associations, the following separation of routes for upbound and downbound traffic in Lake Superior: (see Coast Pilot for details).

**U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies**

RCC Cleveland

Commander
9th CG District
Cleveland, OH

(216) 902-6117

Navigation Managers Area of Responsibility



NOAA's navigation managers serve as ambassadors to the maritime community.

They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit nauticalcharts.noaa.gov/service/navmanagers

To make suggestions or ask questions online, go to nauticalcharts.noaa.gov/inquiry.

To report a chart discrepancy, please use ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx.

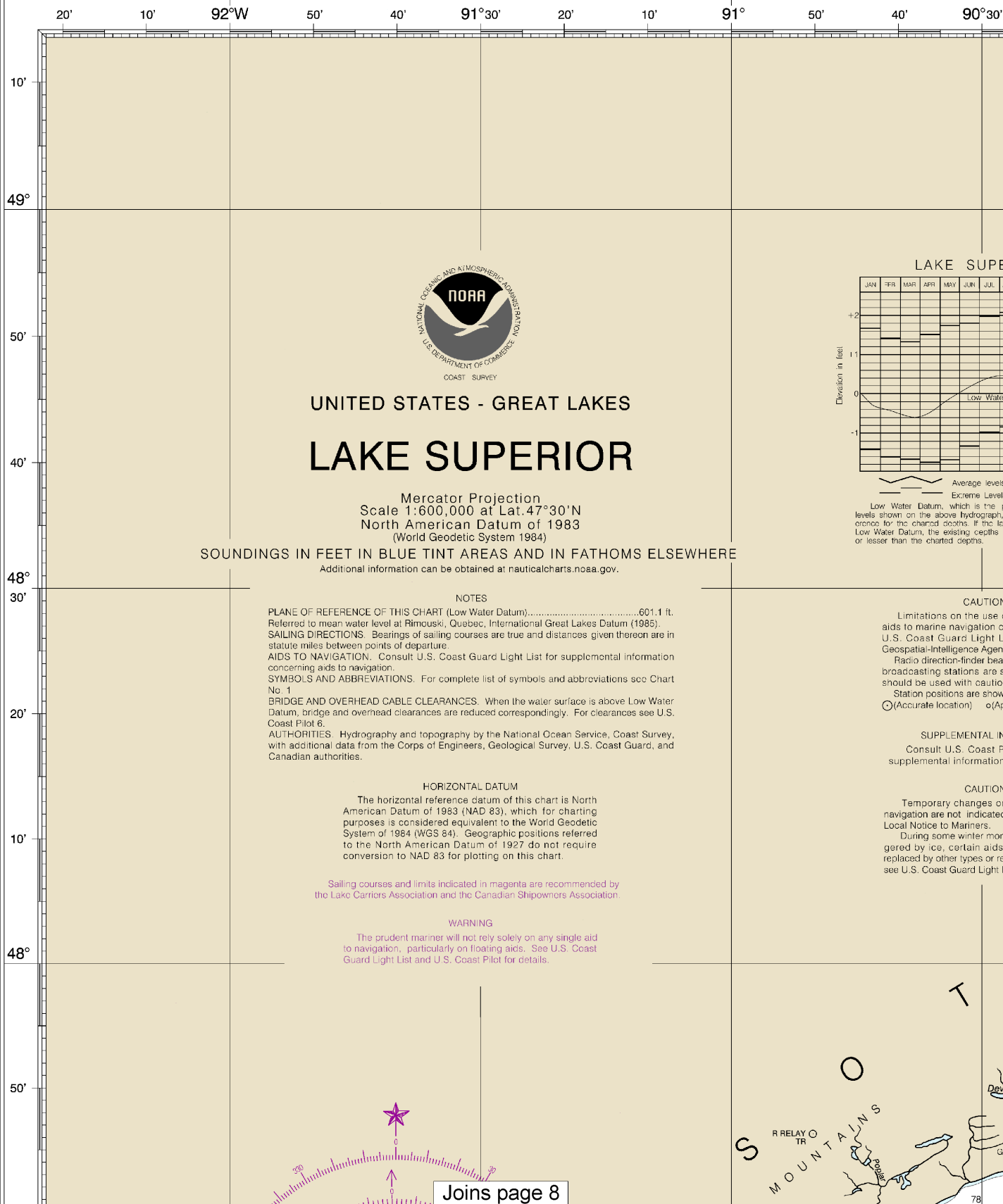
Lateral System As Seen Entering From Seaward

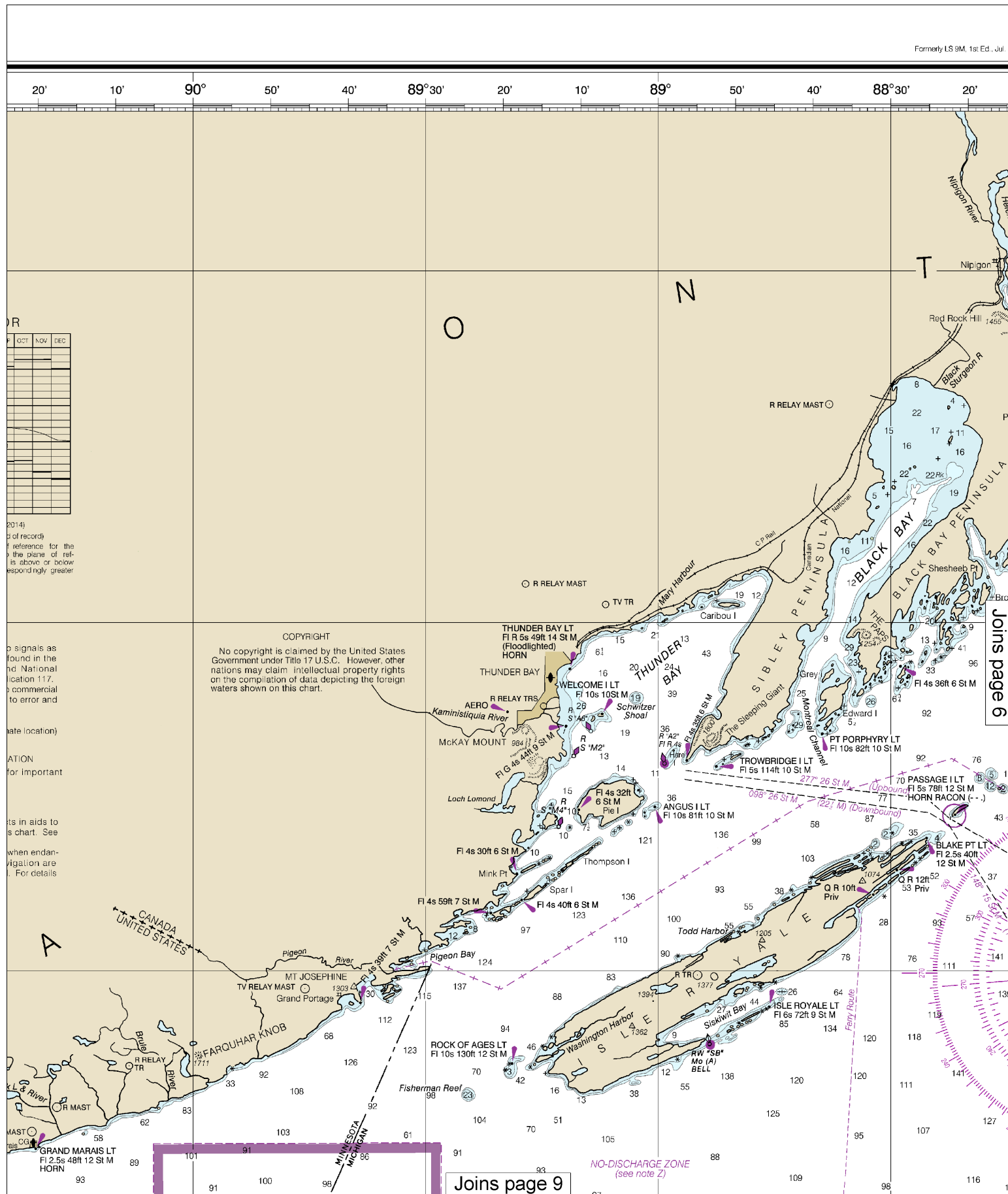
on navigable waters except Western Rivers



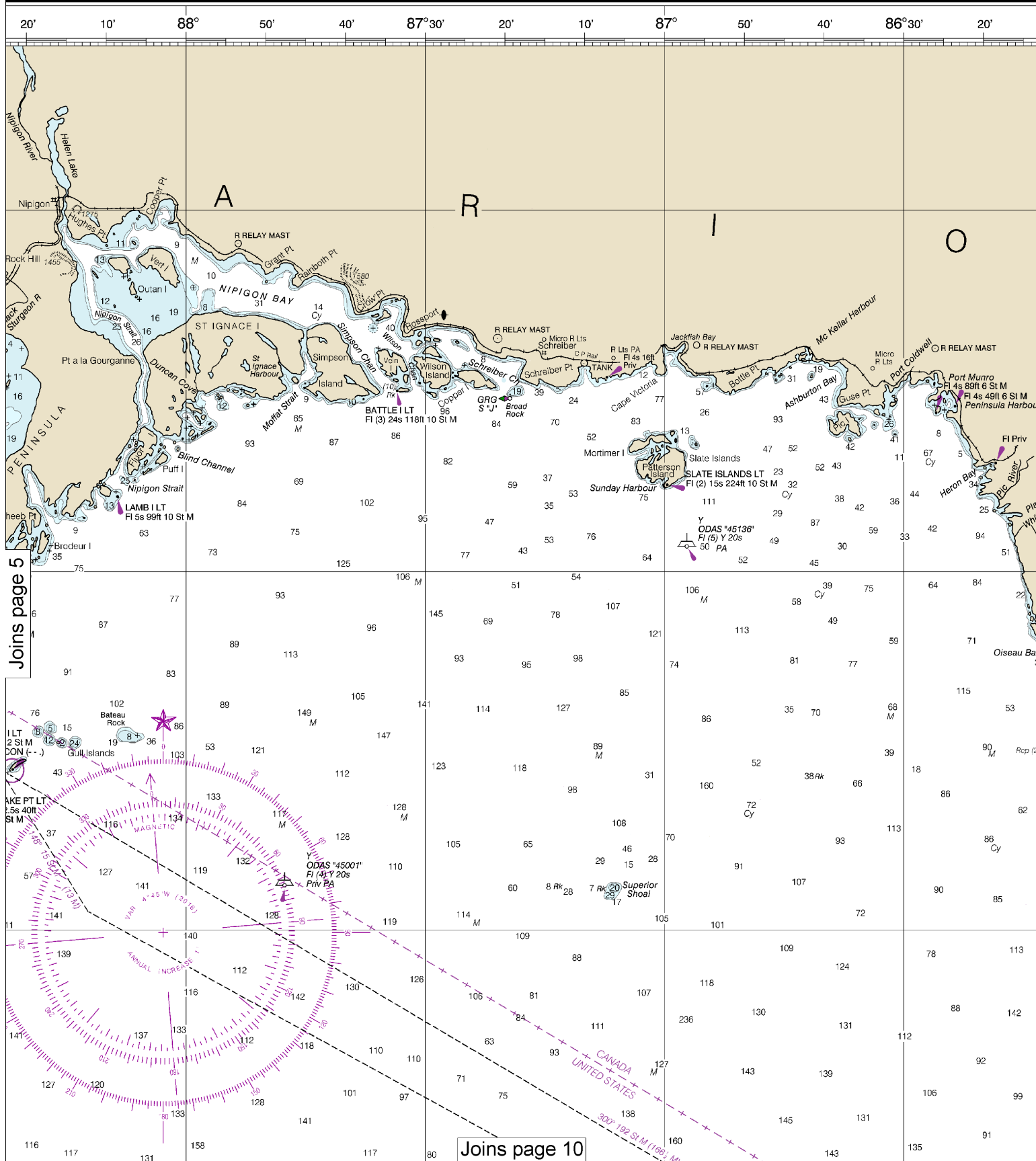
For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area.

These volumes are available online at <http://www.navcen.uscg.gov>





This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:800000. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



Joins page 5

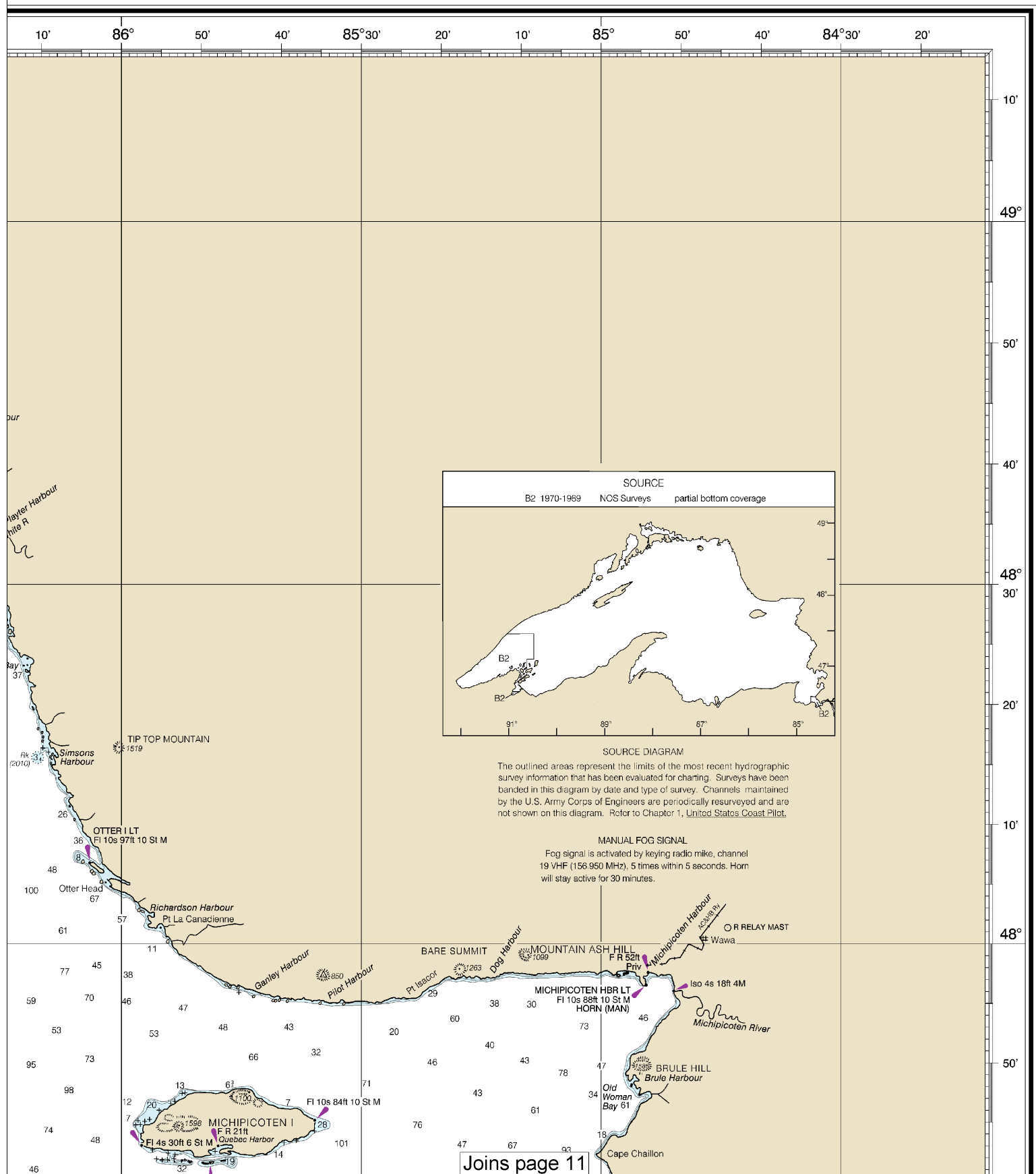
Joins page 10

6

Note: Chart grid lines are aligned with true north.

SOUNDINGS IN FEET AND FATHOMS

(SOUNDINGS IN FEET IN BLUE TINT AREAS AND IN FATHOMS ELSEWHERE)



Last Correction: 11/14/2016. Cleared through:
LNM: 4616 (11/15/2016), NM: 4616 (11/12/2016), CHS: 1016 (10/28/2016)

SAILING DIRECTIONS. Bearings of sailing courses given thereon are in true miles between points of departure. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1.

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, and Canadian authorities.

Joins page 4

Notes to mariners can be found in U.S. Coast Guard Light Lists and Geospatial-Intelligence Agency Public Radio direction-finder bearings to broadcasting stations are subject to change. Station positions are shown thus:
 (O) (Accurate location) (o) (Approximate location)

SUPPLEMENTAL INFORMATION. Consult U.S. Coast Pilot 6 for supplemental information.

CAUTION. Temporary changes or defects in navigation are not indicated on this Local Notice to Mariners. During some winter months or when weathered by ice, certain aids to navigation are replaced by other types or removed. See U.S. Coast Guard Light List.

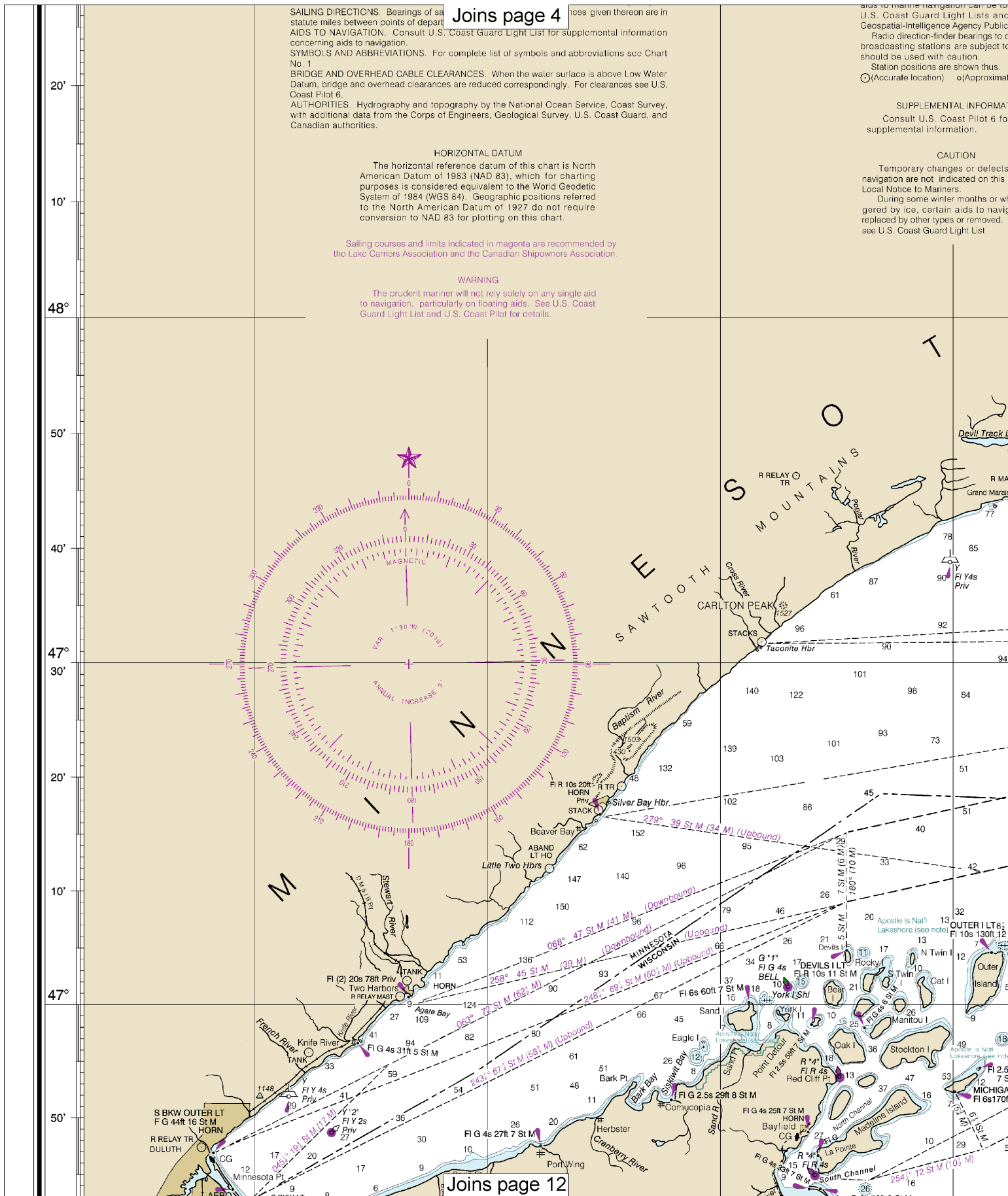
HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

Sailing courses and limits indicated in magenta are recommended by the Lake Carriers Association and the Canadian Shipowners Association.

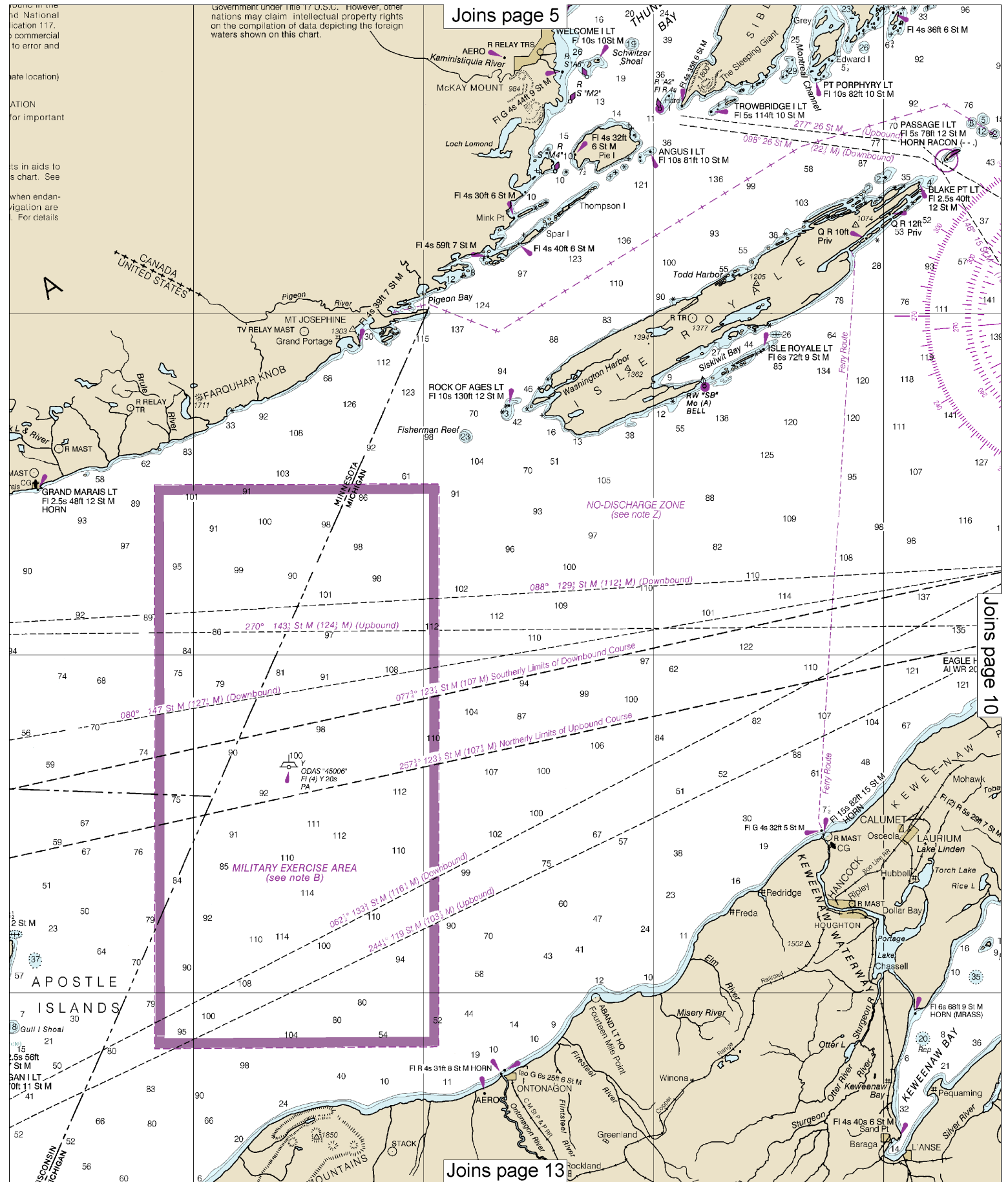
WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.



Government under title 17 U.S.C. However, other nations may claim intellectual property rights on the compilation of data depicting the foreign waters shown on this chart.

Joins page 5

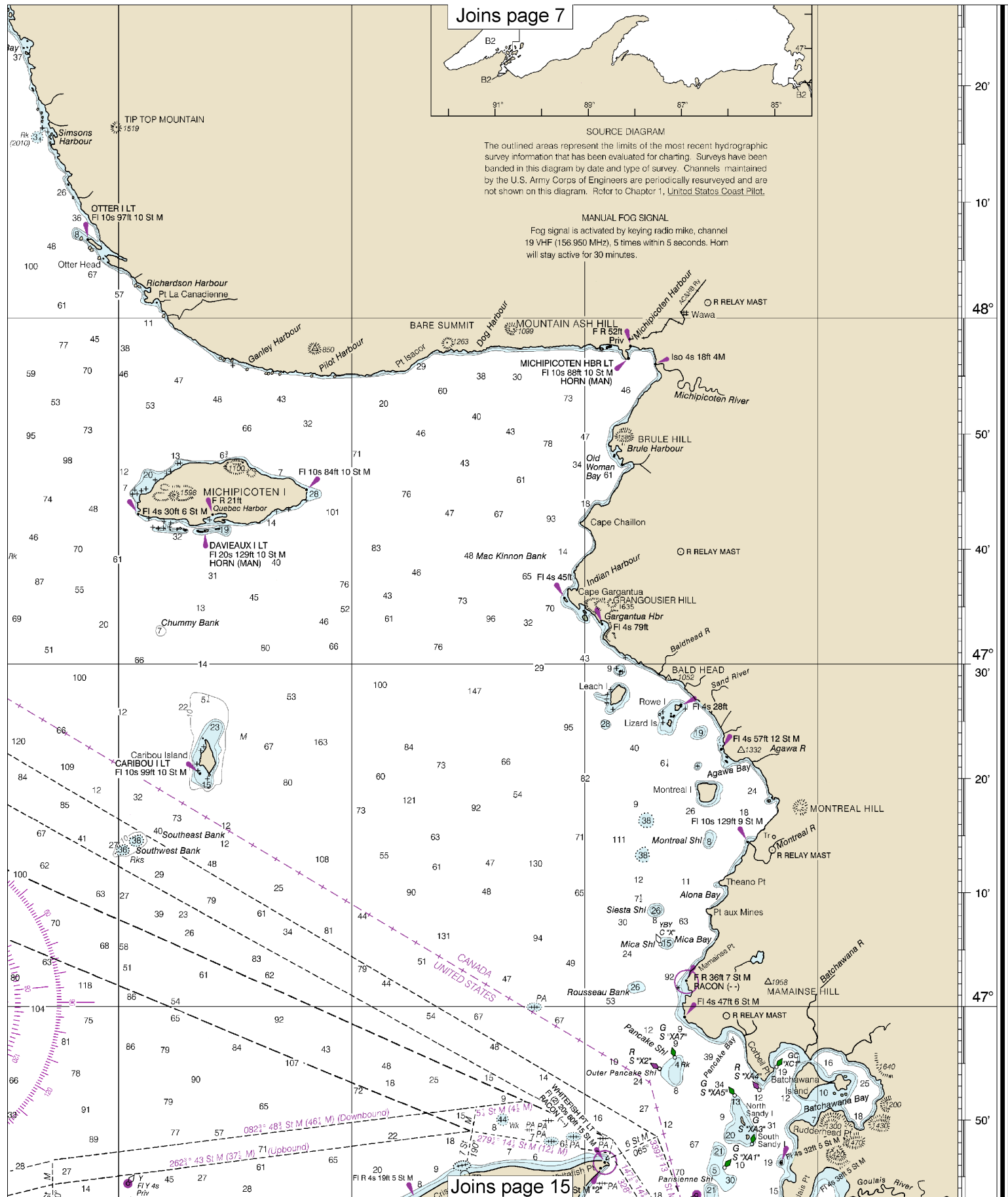


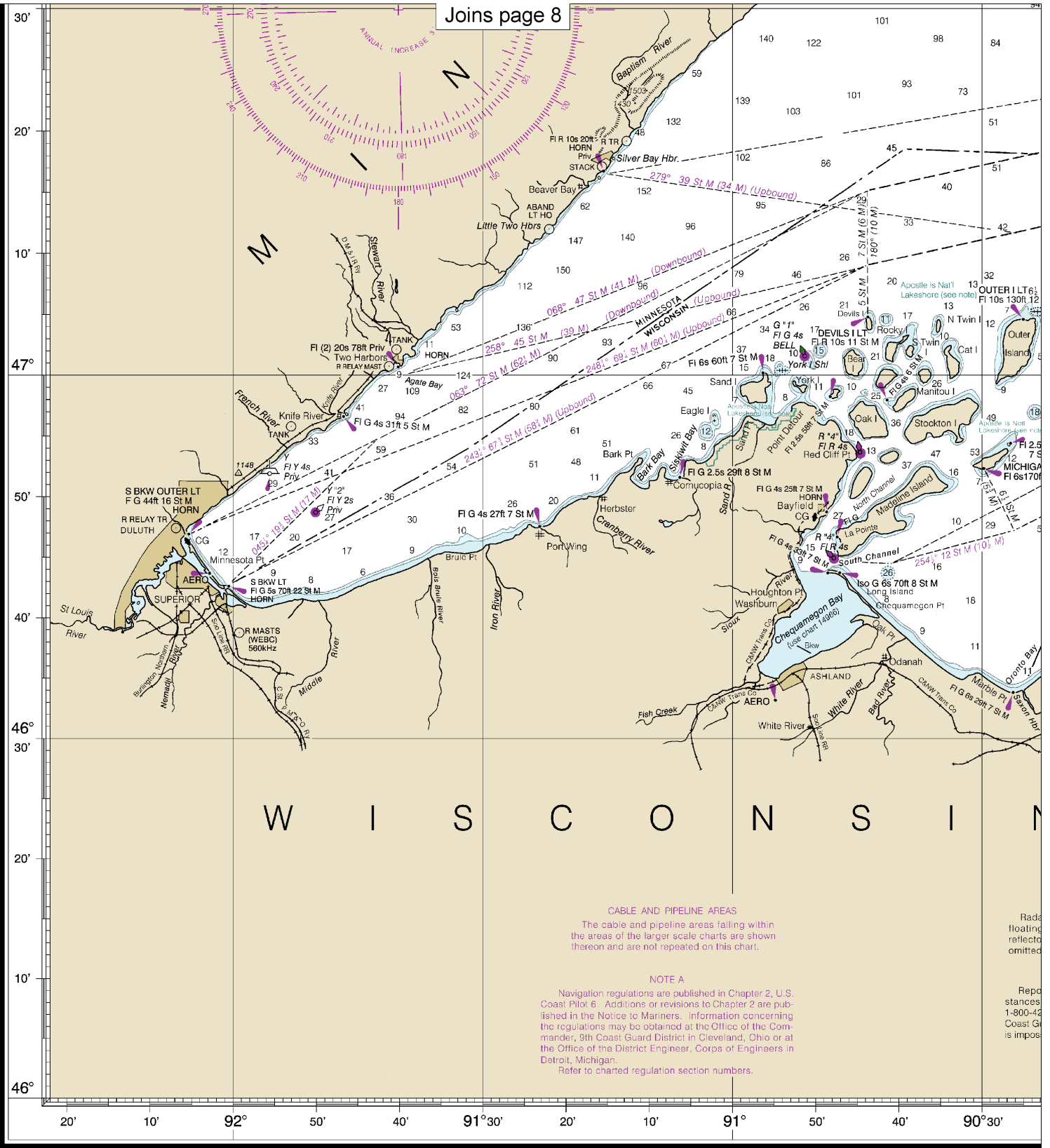
Joins page 13

Joins page 10

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

Fog signal is activated by keying radio mike, channel 19 VHF (156.950 MHz), 5 times within 5 seconds. Horn will stay active for 30 minutes.





13th Ed., Feb. 2016

14961

CAUTION

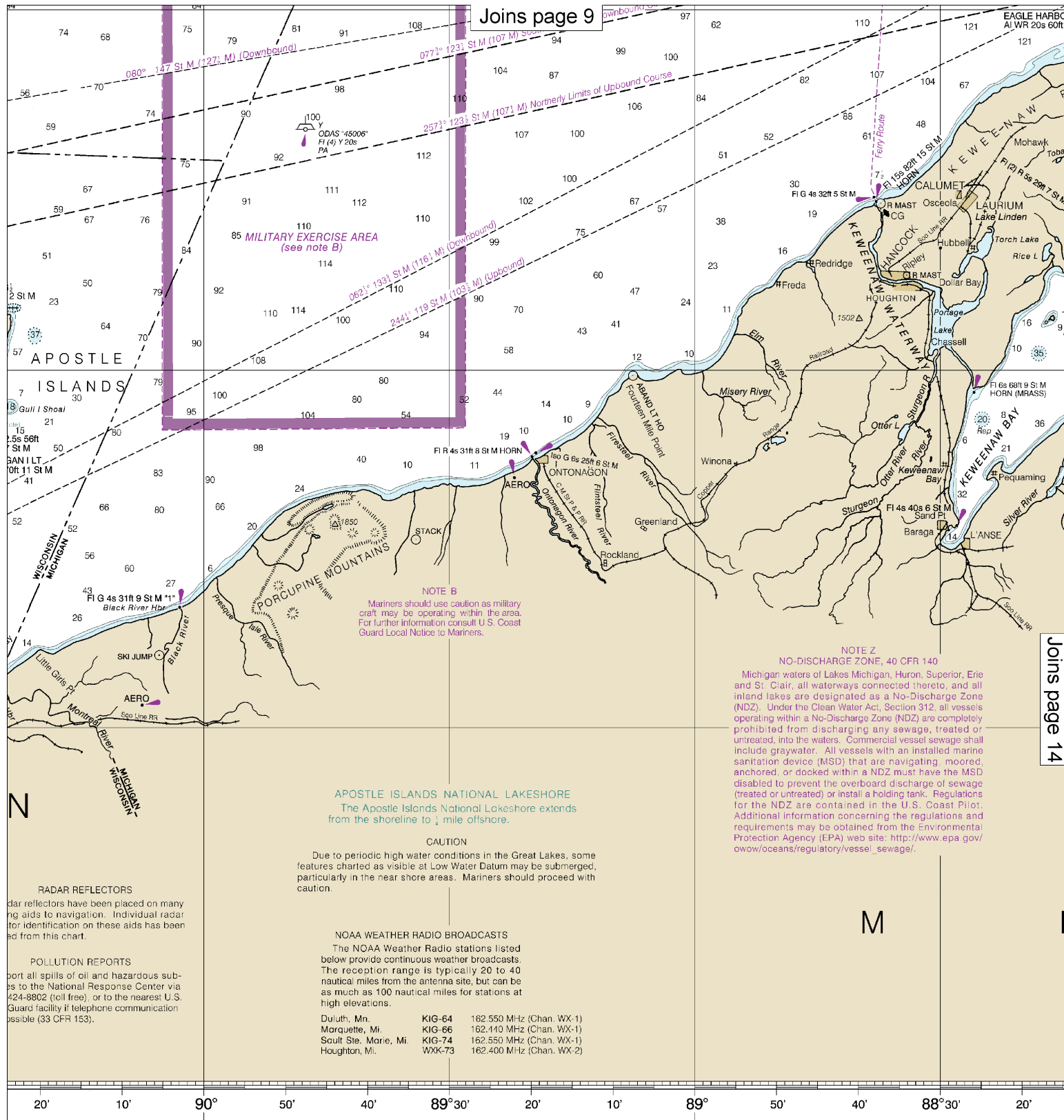
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

Last Correction: 11/14/2016. Cleared through:
LNM: 4616 (11/15/2016), NM: 4616 (11/12/2016), CHS: 1016 (10/28/2016)

SOUNDINGS IN FEET
(SOUNDINGS IN FEET IN BLUE TINT ARE IN FATHOMS)

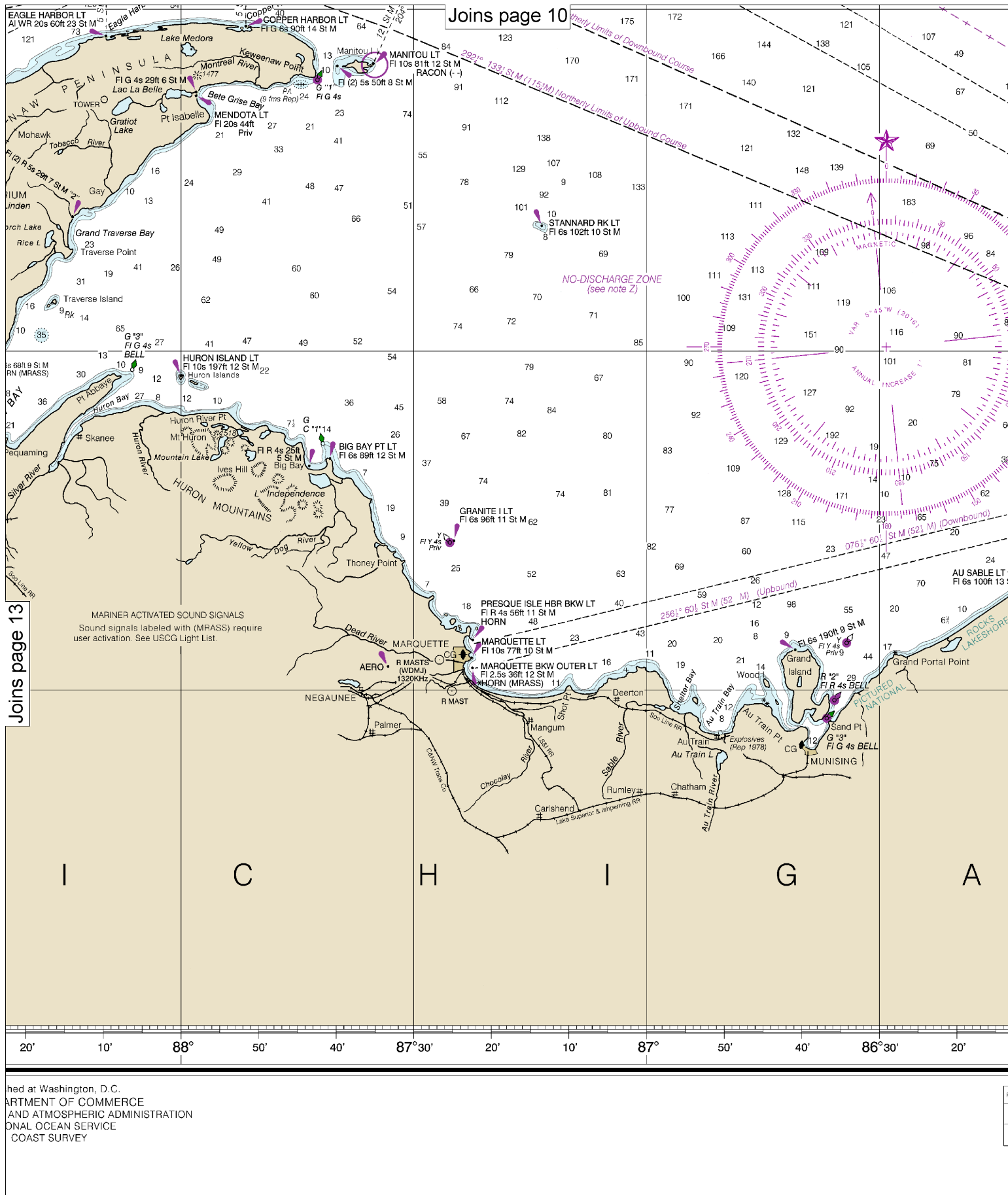
12

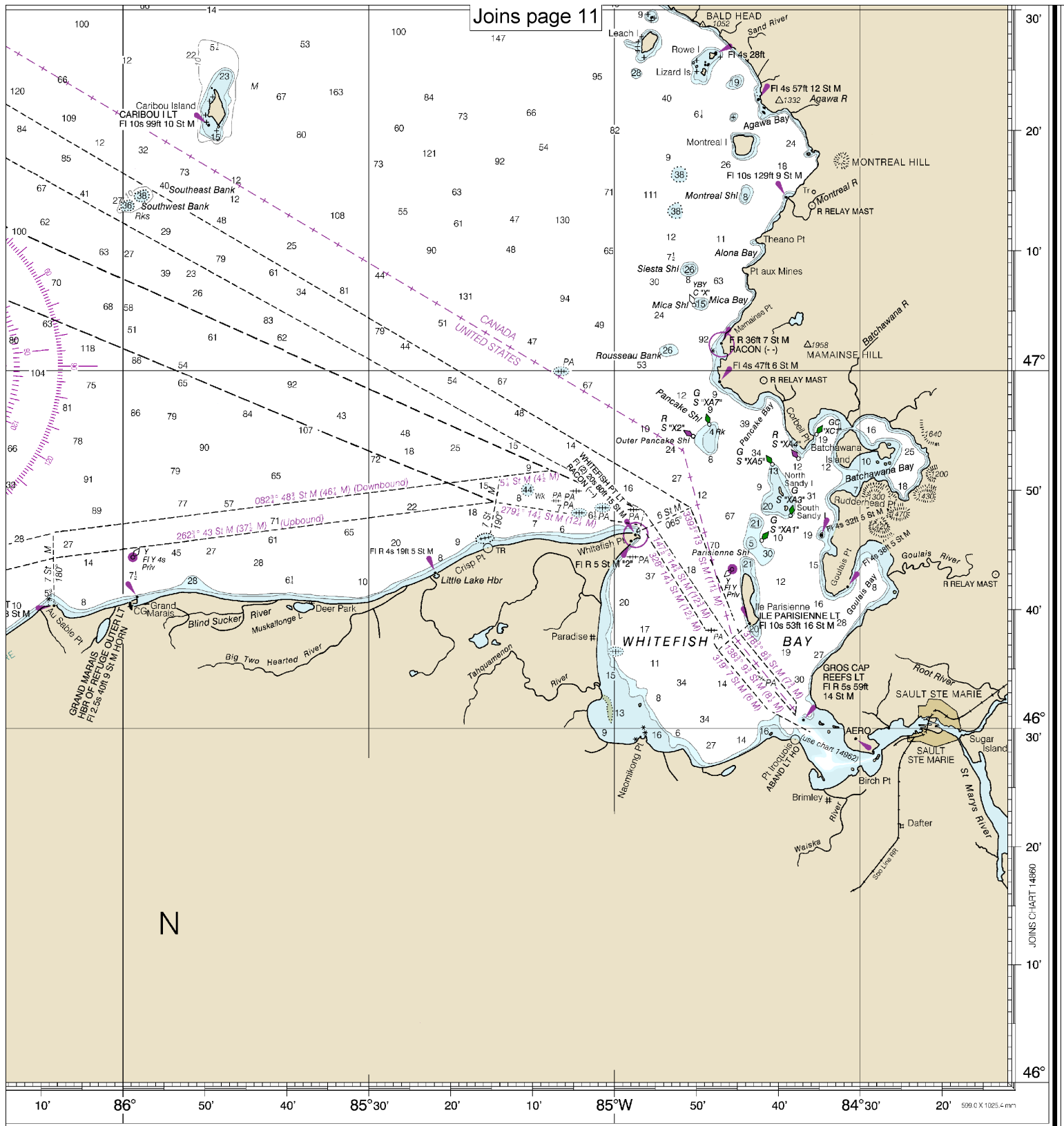
Note: Chart grid lines are aligned with true north.



LET AND FATHOMS
(AREAS AND IN FATHOMS ELSEWHERE)

Published at Wash
U.S. DEPARTMENT O
NATIONAL OCEANIC AND ATMOS
NATIONAL OCEAN
COAST SUR





FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Lake Superior
SOUNDINGS IN FEET & FATHOMS - SCALE 1:600,000

14961



VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

Quick References

Nautical chart related products and information	— http://www.nauticalcharts.noaa.gov
Interactive chart catalog	— http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
Report a chart discrepancy	— http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx
Chart and chart related inquiries and comments	— http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs
Chart updates (LNM and NM corrections)	— http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
Coast Pilot online	— http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm
Tides and Currents	— http://tidesandcurrents.noaa.gov
Marine Forecasts	— http://www.nws.noaa.gov/om/marine/home.htm
National Data Buoy Center	— http://www.ndbc.noaa.gov/
NowCoast web portal for coastal conditions	— http://www.nowcoast.noaa.gov/
National Weather Service	— http://www.weather.gov/
National Hurricane Center	— http://www.nhc.noaa.gov/
Pacific Tsunami Warning Center	— http://ptwc.weather.gov/
Contact Us	— http://www.nauticalcharts.noaa.gov/staff/contact.htm



— For the latest news from Coast Survey, follow **@NOAAcharts**



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.